

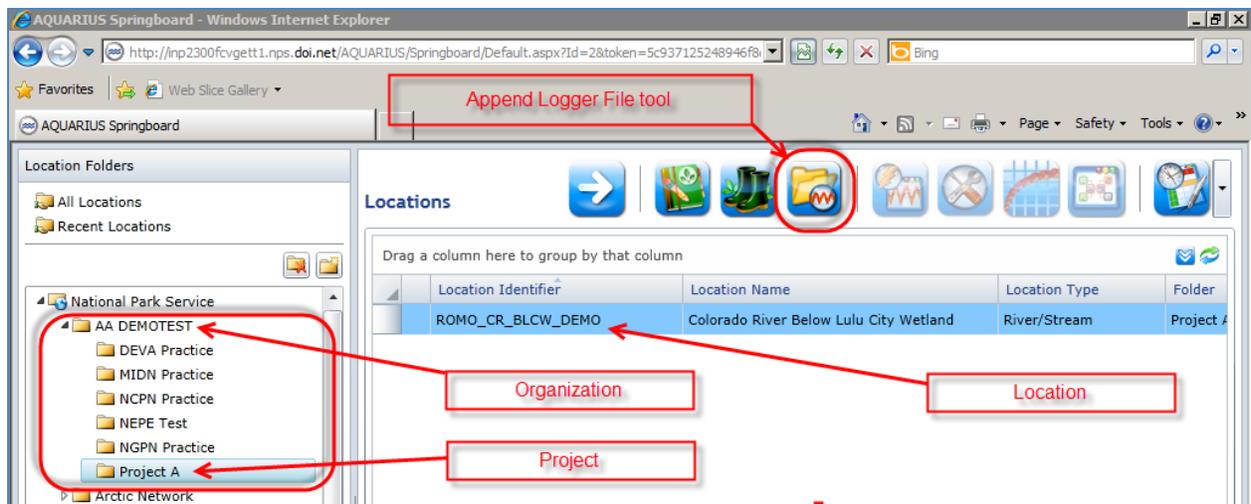
Aquarius Hot Folders

To view a video demonstration of what is written here, click the hyperlink in the box below.

<http://nrdata.nps.gov/programs/water/aquarius/Videos/HotFolders/HotFolders.html>

This document demonstrates how to create and use Aquarius' Hot Folders to quickly append data into existing Aquarius database time-series containers without even starting the program. This functionality can be used to facilitate both manual and telemetered data flows.

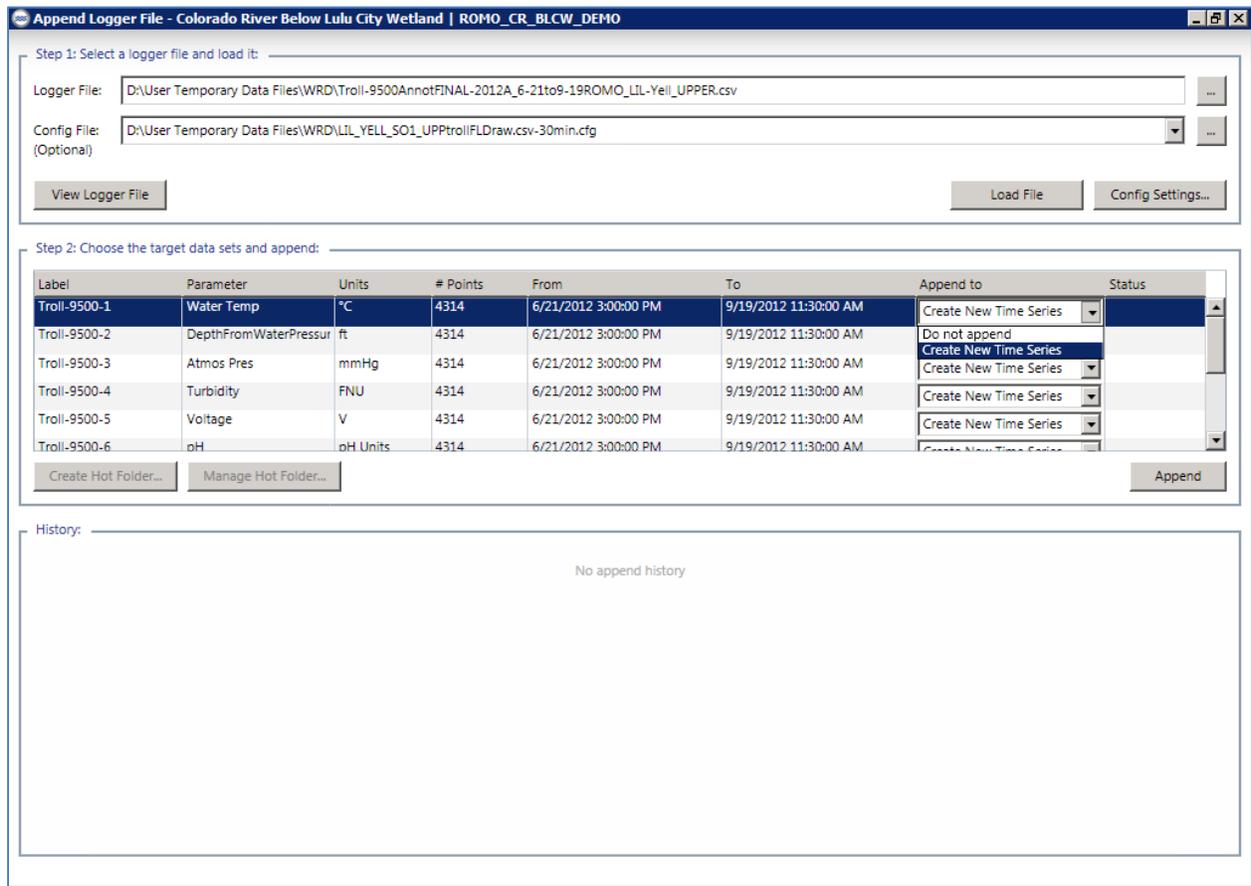
This tutorial assumes you are either familiar with Aquarius and/or have read the Springboard [overview document](#) or watched the [video demonstration](#). Hot Folders are created and managed through the Springboard Append Logger File tool and Location Manager. To begin, we'll need an existing organization, project, and location under which to store the data. You can use your existing organization, project, and location as desired. For this tutorial, however, we'll use the 'AA DEMOTEST' organization, the 'Project A' project, and the location 'ROMO_CR_BLCW_DEMO' as shown below.



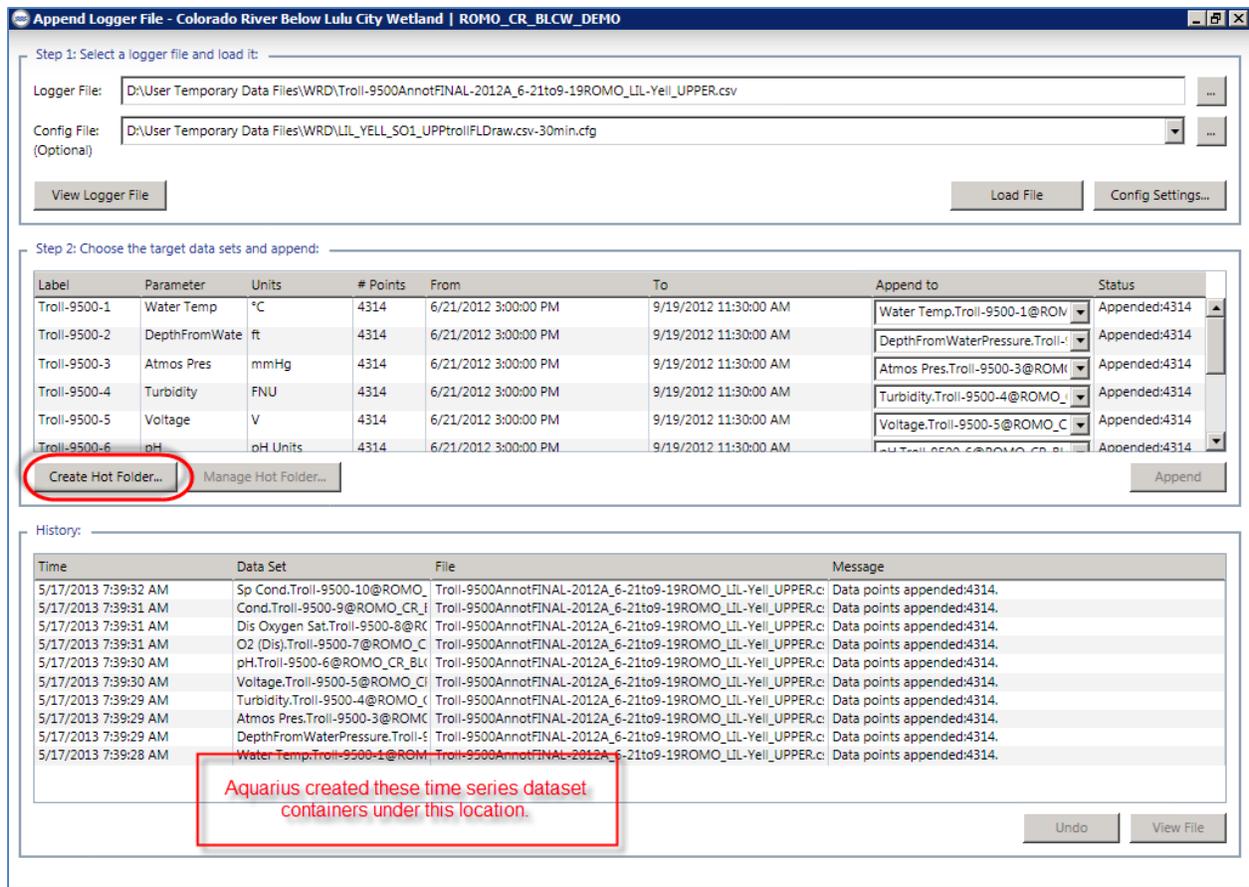
Assuming you have an organization, project, and location for which you want to create a Hot Folder, the first step is to execute an initial append (using the Append Logger File tool) of time series data into the location in order to create the initial dataset containers and import configuration file that will be used by Aquarius to parse and process time series data files that are subsequently copied into the Hot Folder.

With the desired location selected, click the Append Logger File tool icon (). Enter a Logger File name or click '...' to browse and select a file. Then enter a Config File name or click '...' to browse and select a file or click the 'Config Settings ...' button to step through the four step 'Import from File Wizard' to create (or modify) an existing configuration. For the details on how

to do this refer to the [Introduction to the Aquarius Springboard](#) tutorial and/or video. Once you have a Logger File and Config File specified, click the 'Load File' button. Aquarius will read the import logger file as per the file specifications in the Config file and show you Step 2 (as per below) where you choose the dataset container to append each incoming time series into. Since we haven't imported anything into this location yet, the 'Append to' options are either 'Do not append' or 'Create New Time Series'. The ability to create a new time-series container on the fly is a time-savings convenience here. Alternatively, you could have created the time-series containers in Location Manager's 'Data Sets' tab and then they would appear here as options under 'Append to' that you could append the incoming time series into.



For this tutorial I'm going to select 'Create New Time Series' for each incoming time series to let Aquarius create the dataset containers on the fly. Then click the 'Append' button to actually execute the operation. The Append Data Logger tool will process the file and create the new time-series dataset containers under the location. Additionally, the 'Create Hot Folder ...' button becomes enabled.



Click on the 'Create Hot Folder...' button. The 'Create Hot Folder' form appears. You generally don't have to edit anything here, but there are several key points:

- Hot Folders are named with the location ID (i.e. ROMO_CR_BLCW_DEMO) so location IDs must be unique.
- All Hot Folders are created in <\\INP2300FCVGETT1\AQUARIUSHotFolders>.
- All Config files to parse files copied to Hot Folders are stored in <\\INP2300FCVGETT1\AQUARIUSCfgFiles>.
- Once a Config file has been made and copied to <\\INP2300FCVGETT1\AQUARIUSCfgFiles> the import file format shouldn't change nor should the Config file. If the import file format changes that would require a new Config file (created via the Append Logger File tool) which would need to replace the old version at <\\INP2300FCVGETT1\AQUARIUSCfgFiles>. Don't manually edit the Config file.

You could edit the Description field to change it from 'csv files' to something more meaningful as done below. The 'Filename Filter' is important. Set to '*.csv' means it will only process files with that extension that are copied to the Hot Folder. Other files will be ignored.

Create Hot Folder

Hot Folder

Network Path: \\INP2300FCVGETT1\AQUARIUSHotFolders\ROMO_CR_BLCW_DEMO

Parser

Description: Data Sonde CSV files for ROMO_CR_BLCW_DEMO

Filename Filter: *.csv

CFG File: D:\User Temporary Data Files\WRD\LIL_YELL_SO1_UPPtrollFLDraw

Copy to network path: \\INP2300FCVGETT1\AQUARIUSCfgFiles

NOTE: Do not modify the CFG file manually. See help for details.

Data Set Mapping:

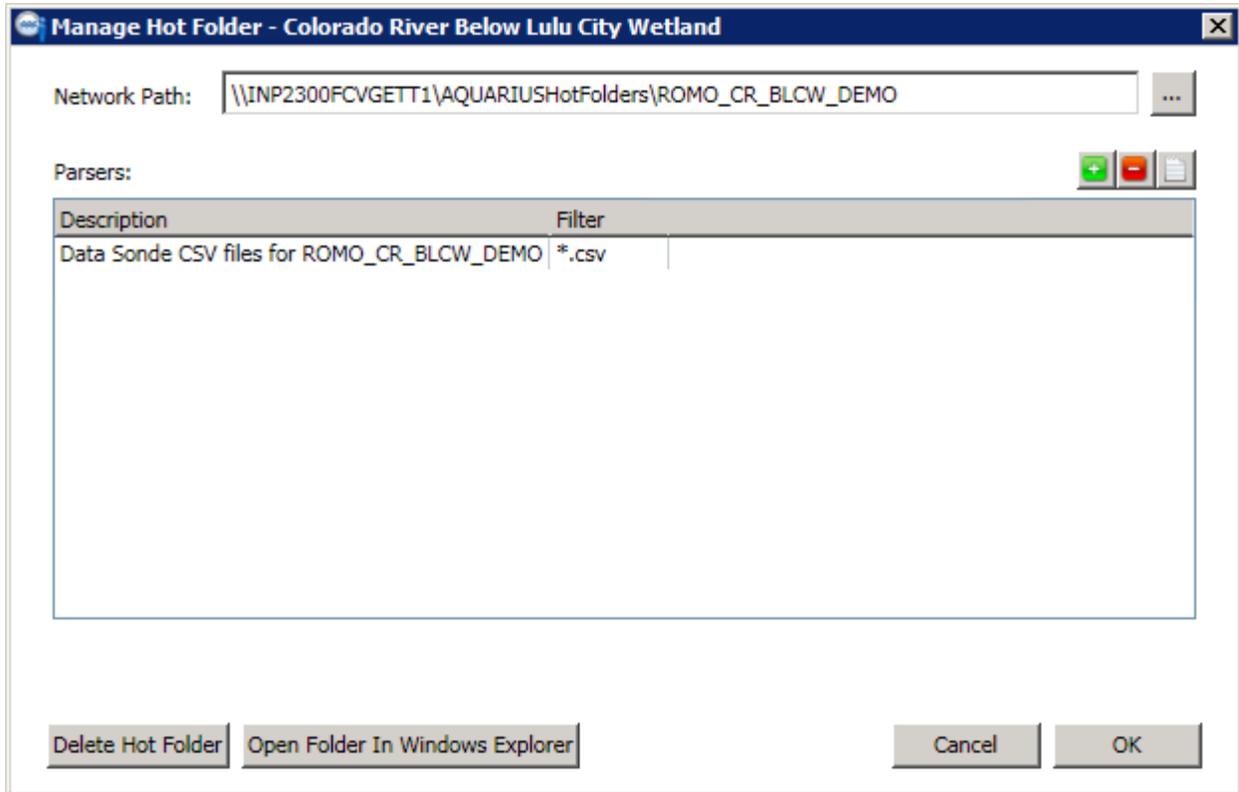
Logger File Label	AQUARIUS Data Set
Troll-9500-1	Water Temp.Troll-9500-1@ROMO_CR_BLCW_
Troll-9500-2	DepthFromWaterPressure.Troll-9500-2@ROM
Troll-9500-3	Atmos Pres.Troll-9500-3@ROMO_CR_BLCW_[
Troll-9500-4	Turbidity.Troll-9500-4@ROMO_CR_BLCW_DEI
Troll-9500-5	Voltage.Troll-9500-5@ROMO_CR_BLCW_DEM
Troll-9500-6	pH.Troll-9500-6@ROMO_CR_BLCW_DEMO
Troll-9500-7	O2 (Dis).Troll-9500-7@ROMO_CR_BLCW_DEM
Troll-9500-8	Dis Oxygen Sat.Troll-9500-8@ROMO_CR_BLC

Cancel OK

Notice the 'Data Set Mapping' section at the bottom of the form. This is how Aquarius matches each incoming parameter/column to the appropriate 'Aquarius Data Set'. There is a bug (which I reported to Aquatic Informatics recently) in this version of Aquarius, however, whereby the Hot Folder fails to load all of a file's data if the 'Logger File Label' isn't unique for each parameter/column. Recall from the Append Logger File tool import wizard (and the Location Manager 'Data Sets' tab) that you provide a 'Label' when defining each time series. In Aquarius, the Parameter name, Label, and Location ID comprise the time series dataset name (e.g. "pH.Troll-9500-6@ROMO_CR_BLCW_DEMO"). You may want to use the Label to indicate the sonde that generated the parameter – in which case all parameters would have the same Label. This works fine in all other parts of Aquarius but will cause an error in Hot Folder

processing which currently requires that each dataset's Label be unique. To circumvent the bug here I've added a numerical suffix to each Label (e.g. "Troll-9500-1").

Click 'OK' to create the Hot Folder. Notice that the 'Manage Hot Folder ...' button is now enabled. This provides a means to open the Hot Folder in Windows Explorer, delete the Hot Folder, and add/delete/edit parsers. Adding additional parsers allows you to have more than one file type/filter be automatically processed into Aquarius at a location. You can also access this screen/functionality from Location Manager's Hot Folder tab.



Let's go ahead and test our new Hot Folder. First, click 'Cancel' here to exit the 'Manage Hot Folder' form. Back in the Append Logger File tool, in the 'History' area, select all the time series (click the first time series, hold down the shift key, and then click the last time series) and then click the 'Undo' button. This removes the data we just appended but the newly created dataset containers remain – they are just empty. Note: you don't need to back out (undo) your initial import after creating a Hot Folder. I'm just doing it as a convenience here because I don't have a second/separate/new data logger file to load via this location's Hot Folder so I'm going to load this file again. To do that, it must be undone because loading the file again via the Hot Folder would generate error messages because the data would already be in Aquarius.

History:

Time	Data Set	File	Message
5/17/2013 7:39:32 AM	Sp Cond.Troll-9500-10@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:31 AM	Cond.Troll-9500-9@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:31 AM	Dis Oxygen Sat.Troll-9500-8@RC	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:31 AM	O2 (Dis).Troll-9500-7@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:30 AM	pH.Troll-9500-6@ROMO_CR_BLI	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:30 AM	Voitage.Troll-9500-5@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:29 AM	Turbidity.Troll-9500-4@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:29 AM	Atmos Pres.Troll-9500-3@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:29 AM	DepthFromWaterPressure.Troll-9500-2@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.
5/17/2013 7:39:28 AM	Water Temp.Troll-9500-1@ROMO_CR_I	Troll-9500AnnotFINAL-2012A_6-21to9-19ROMO_LIL-Yell_UPPER.c	Data points appended:4314.

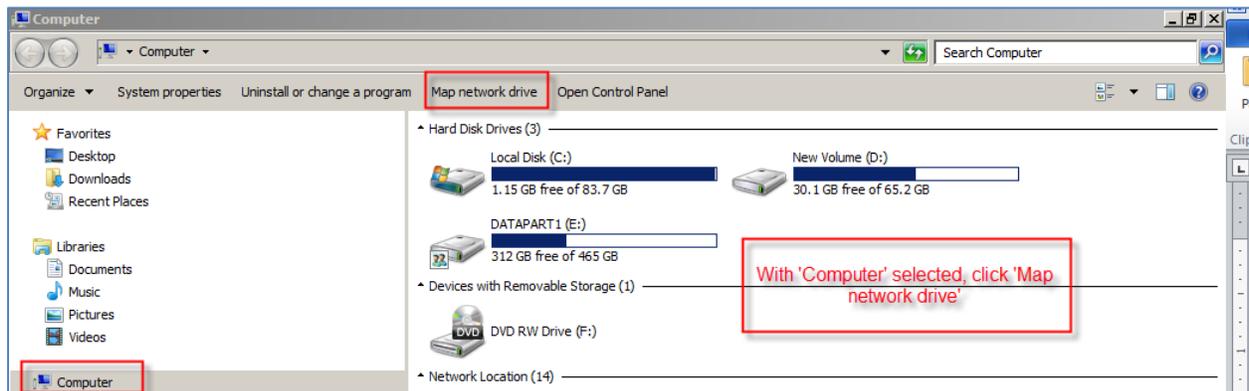
Click 'Undo' to remove the data from these time series datasets.

Undo View File

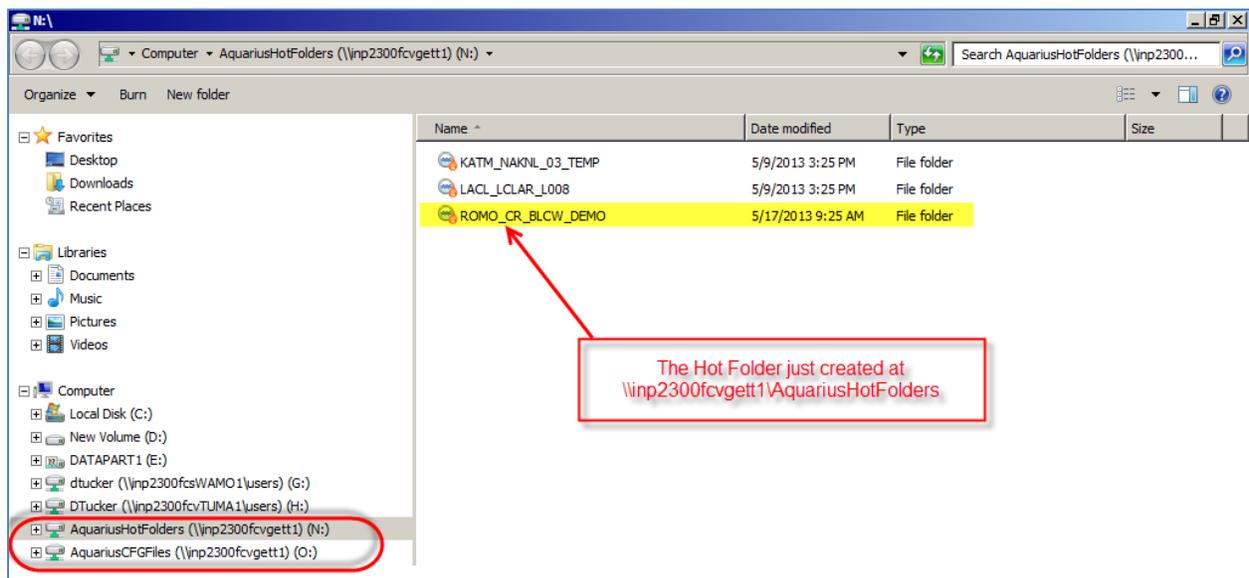
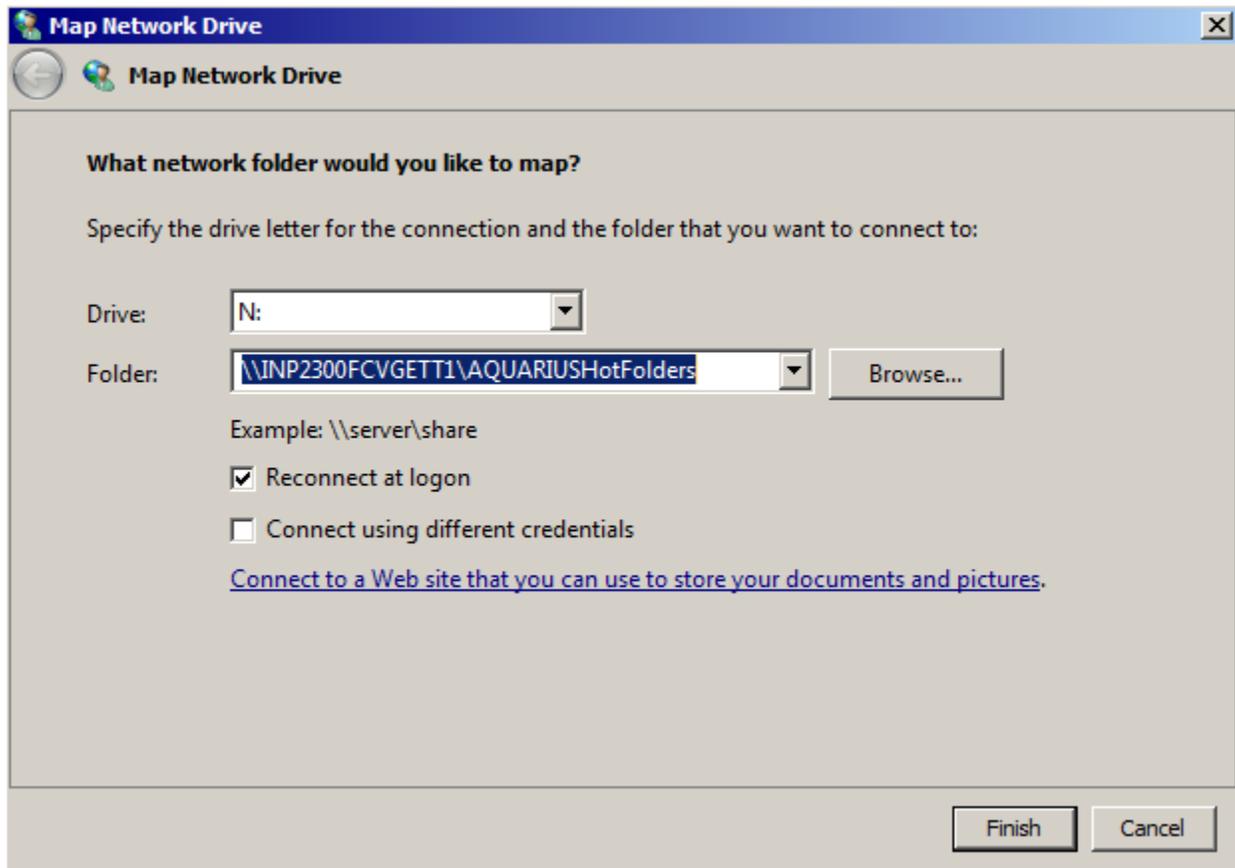
At this point we are ready to copy our data logger file to the Hot Folder for this location to have Aquarius automatically ingest it. To do that though, let's find the relevant folders on the INP2300FCVGETT1 server using Windows Explorer so you can copy files to the Hot Folder.

Map Network Drives

Open Windows Explorer, click on the 'Computer' entry in the left pane and select 'Map network drive' at the top.



Select an available 'Drive:' letter and then for folder enter: <\\INP2300FCVGETT1\AQUARIUSHotFolders>. Be sure the 'Reconnect at logon' is checked and then click the 'Finish' button. Windows Explorer will connect to the server and display the contents of that folder. You will now be able to copy import files ready to be processed against the Hot Folder's Config file directly from your local hard drive or <\\INP2300FCVGETT1\AquariusTempFileStorage> (see below) to the Hot Folder and watch them successfully process.

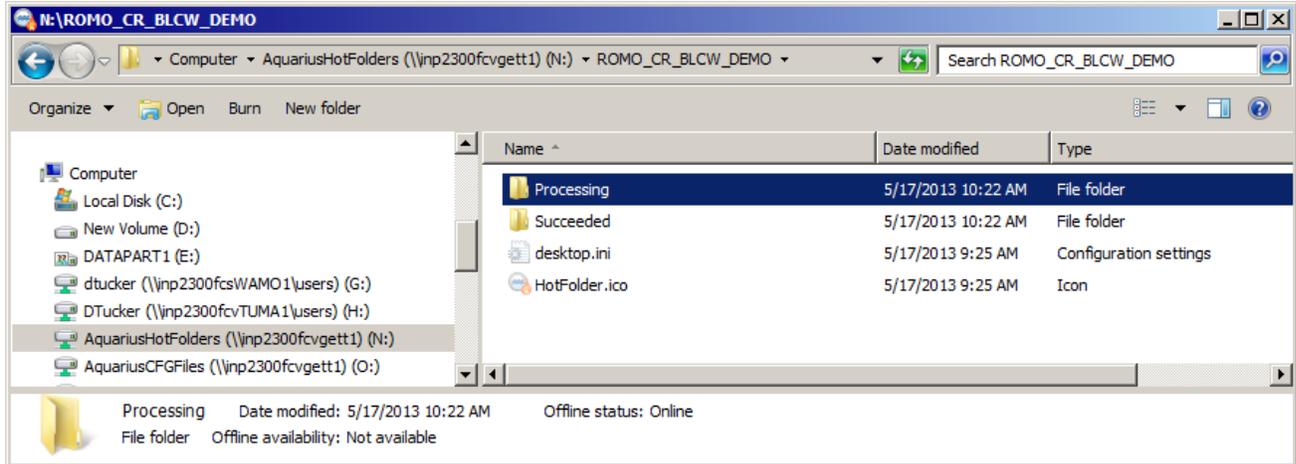


Repeat the drive mapping process as desired if you want to have mappings to the Config file directory ([\\INP2300FCVGETT1\AquariusCFGFiles](#)) or a directory for temporarily staging files on

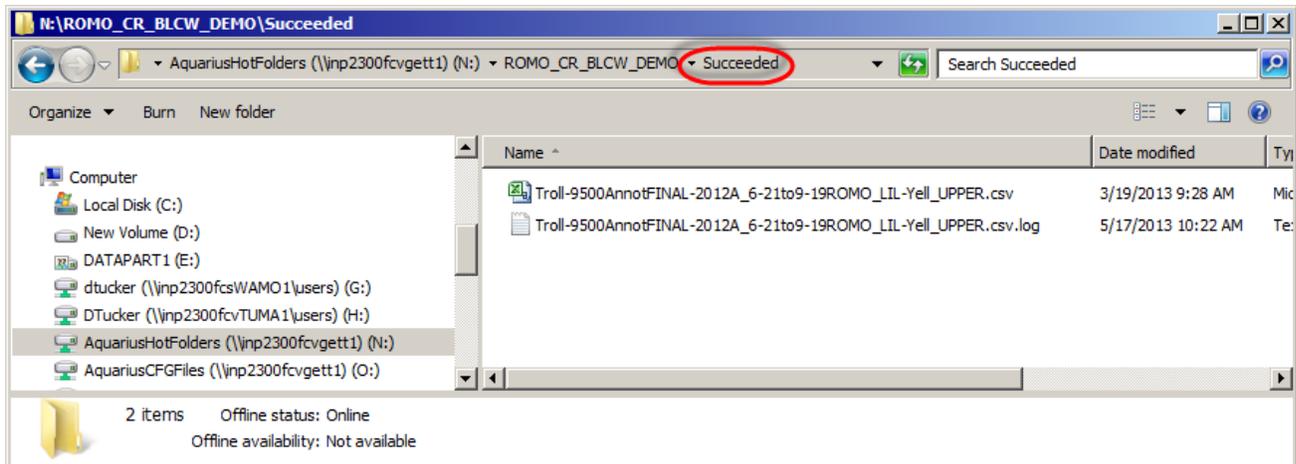
the server prior to importing ([\\INP2300FCVGETT1\AquariusTempFileStorage](#)). This temporary staging area (directory) may be useful if you find Aquarius slow to access files from your local computer. Note: files temporarily stored in AquariusTempFileStorage are automatically removed on a monthly basis.

Copy File to Hot Folder

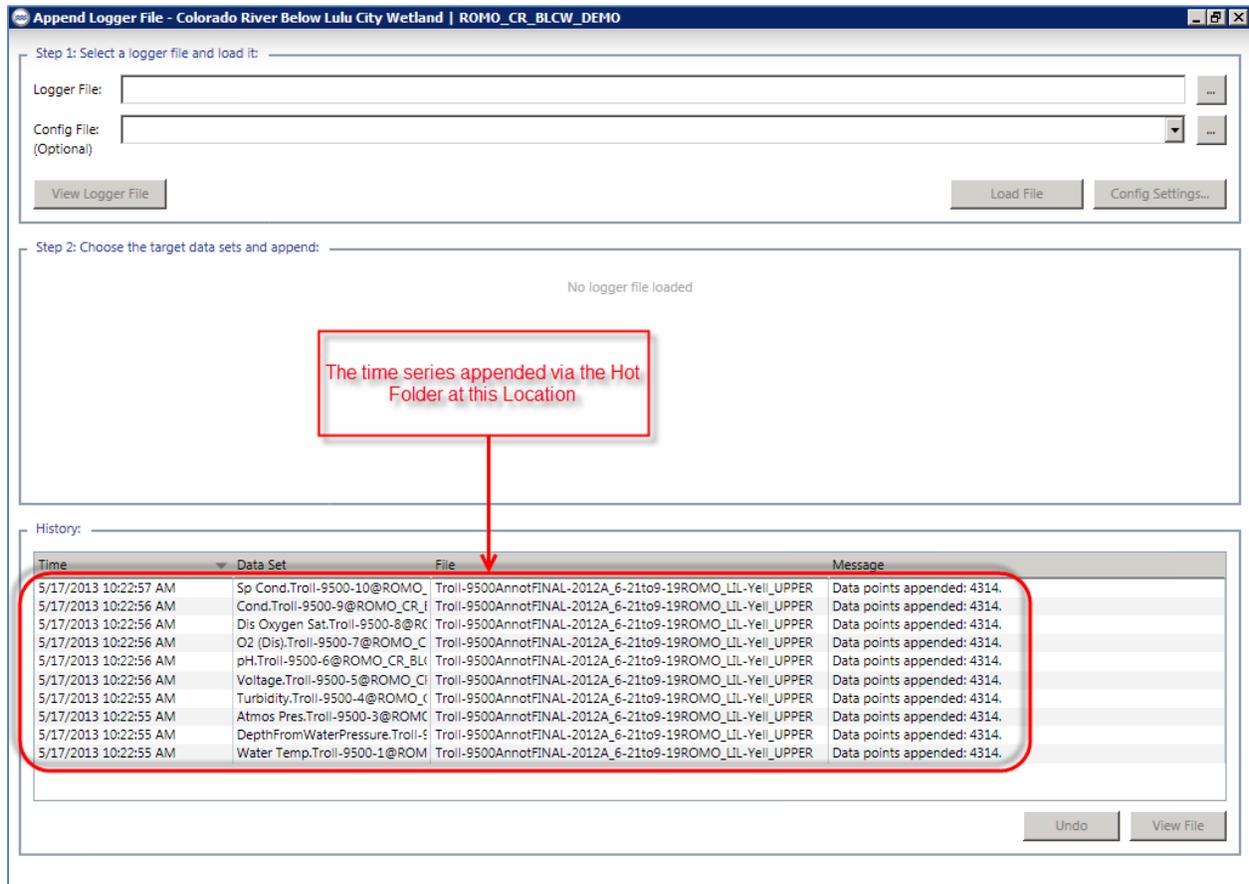
You can now drag 'n' drop or copy 'n' paste files to the Hot Folder for processing by Aquarius.



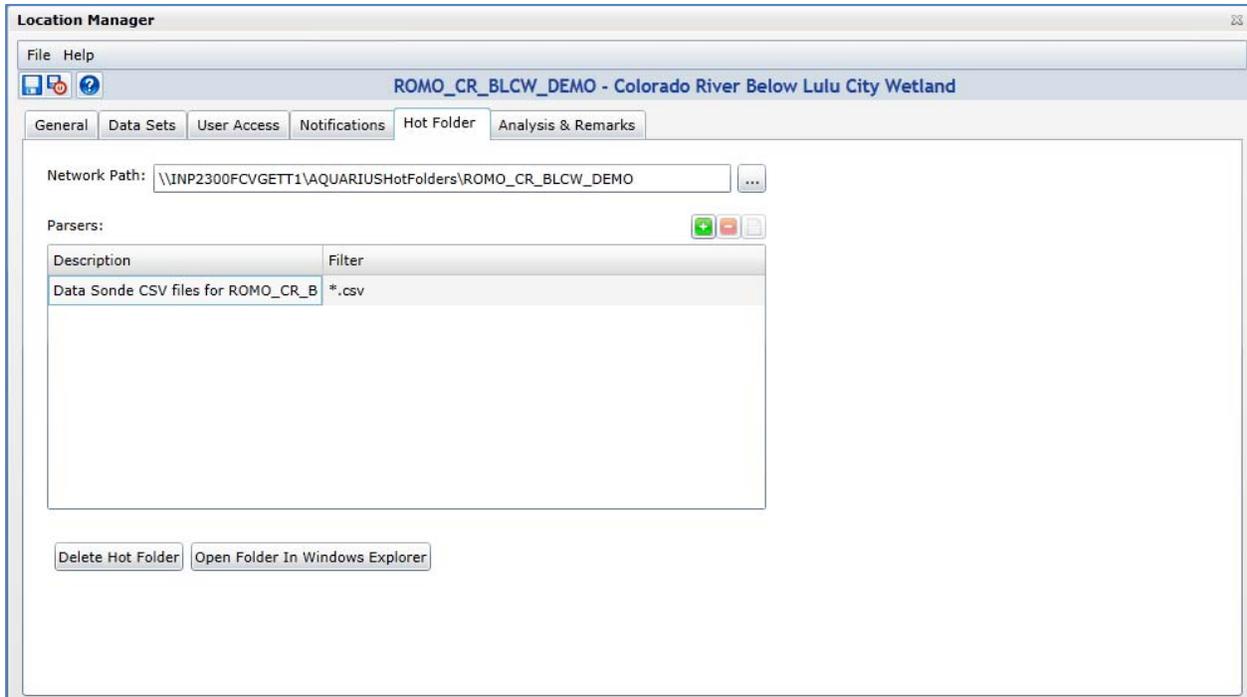
When you place the file in the Hot Folder a few seconds will elapse and then Aquarius will find the file and move it into a 'Processing' directory. When it is finished, Aquarius will move the processed file and a companion processing log into either a 'Succeeded' or 'Failed' subdirectory. If a file fails to process, check the file's log in the 'Failed' subdirectory, correct the problem, remove the 'Failed' subdirectory, and then place the file back in the root Hot Folder directory for the location so Aquarius can find it and process it again. If the log indicates a partial import, you can use the Append Logger File tool to undo the import/append, fix the issue, and try again.



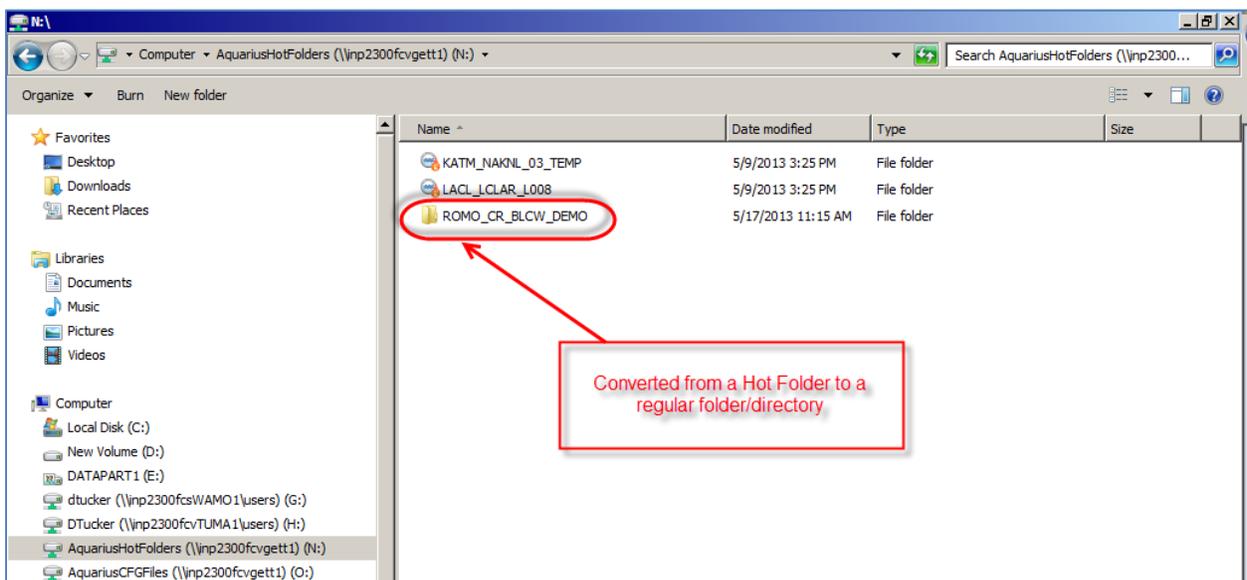
If you open the Append Logger File tool for the location, you'll notice the History pane at the bottom displays the time series that were just appended.



To keep Hot Folders from becoming too cluttered, be sure to remove files from the 'Succeeded' directory (or remove the entire 'Succeeded' directory) periodically. As mentioned above, the Location Manager's Hot Folder tab (shown below) enables you to open the location's Hot Folder in Windows Explorer, delete the Hot Folder, and add/delete/edit additional parsers for the location.



If you choose to 'Delete Hot Folder' you will be asked to confirm the deletion and there will be an option on that form that you can check that will allow you to 'Keep the folder on disk'. This keeps the contents of the Hot Folder on disk but changes the Hot Folder to a regular directory. If you copy files to the directory they won't be processed into Aquarius. To re-enable that folder as a Hot Folder you would again need to use the Append Logger File tool to re-create the Hot Folder.





Check your active Hot Folders on a regular basis to ensure no import files exist in the 'Failed' subdirectories. Know your data!

That concludes this tutorial on how to create and use Hot Folders in Aquarius. To view Aquatic Informatics' videos on creating and managing Hot Folders check out the links below:

<http://support.aquaticinformatics.com/AQVideos/R3Videos/CreatingHotFolder/CreatingHotFolder.html>

<http://support.aquaticinformatics.com/AQVideos/R3Videos/LMHotFolder/LMHotFolder.html>

Aquarius is a sophisticated system with many capabilities beyond what was briefly demonstrated here. Consult the on-line help and the additional resources below for more information on how to harness these capabilities for your park or network.

Important Note:

When you complete your Aquarius session by exiting Whiteboard (or closing the Springboard web page), be sure to also right-click on the Aquarius Assistant icon in the Task Bar and choose 'Exit' to free up the license you were using sooner for other would-be users.

Additional Resources:

The Aquatic Informatics support portal at http://aquaticinformatics.com/main/%3FSupport_Login provides a lot of 'How To' videos for both Whiteboard and Springboard. To log into the Aquarius 360 support portal, you'll need a username and password which can be obtained via an email request to support@aquaticinformatics.com.